

ABSTRACT

IMAGING INTERNAL STRUCTURES

An apparatus, method and software module for selecting phase-correlated images from the output of a scanner such as a cone beam CT scanner operates by collapsing the images derived from the series from two dimensions to one dimension by summing the intensities of pixels along a dimension transverse to the one dimension, producing a further image from a composite of the one-dimensional images obtained from images in the series, analysing the further image for periodic patterns, and selecting from the series images having like phase in that periodic pattern. If desired, a plurality of reconstructions can be derived at different phases. The analysis of the further image for periodic patterns can include comparing the one-dimensional images therein, to identify a movement of features in that dimension. This allows (inter alia) the accurate determination of the breathing cycle in a patient and a concomitant improvement in the quality of CT scans by using phase-correlated images: